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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/582,060

**Applicant(s)**

DEME, IMANTS

**Examiner**

Pegah Parvini

**Art Unit**

1793

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 January 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-5 and 7-37 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 7-37 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-8508)  
Paper No(s)/Mail Date 20071115
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Specification***

1. Claim 16 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

Claim 16 does not further limit the amount of hydrogen sulfide suppressant which is claiming.

2. Claim 31 is objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim should refer to other claims in the alternative only. See MPEP § 608.01(n).

Accordingly, the claim 31 and claims 32-34 which are directly or indirectly dependent upon it have not been further treated on the merits.

3. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: There is no antecedent basis for the limitation of "a substantial absence of bitumen or aggregate or both" which has been recited in claims 25 and 37 in the specification.

***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-5 and 36 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The content of elemental sulfur is claimed in the range of from 75 to 100 wt% and the content of H<sub>2</sub>S-suppressant is claimed in the range of 0.02% to 10% (w/w) in the pellet composition. As it was noted down previously, if the amount of sulfur will be 100wt%, no more space is left for any amount of H<sub>2</sub>S-suppressant. Thus, it would be indefinite to have 100wt% of sulfur while the amount of suppressant can not be zero.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1, 3-5, 7-9, and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 4,756,763 to Etnyre in view of US Patent No. 3,960,585 to Gaw.

8. Regarding claim 1, Etnyre teaches a composition of sulfur and asphalt which is formed into pellets to easily handle them (column 2, lines 6-26). Certain other components may be added to this mixture. Etnyre, further, discloses that the ratio of sulfur to asphalt may be 4:1 (column 4, lines 1-6). Considering the fact that the references discloses that fillers may be added to the mixture and even if added, their amounts may be varied, taking an amount of, for example, 3wt% of filler, and a ratio of 4:1, an amount of 77.6wt% of sulfur is achieved. Thus, taking, for example, a ratio of 13:1 of sulfur to asphalt with the optional 3wt% of filler, this would result in an amount of 90wt% of sulfur. The reference does not, expressly, disclose the use of H<sub>2</sub>S-suppressant with this mixing composition.

Gaw, drawn to the same field of art, discloses the use of hydrogen sulfide suppressant to reduce the evolution of hydrogen sulfide which is toxic (column 1, lines 40-50). Gaw expressly teaches that the amount of the suppressant does not exceed 0.5% by weight of the total composition (column 2, lines 44-48).

Therefore, it would have been obvious to one of ordinary skill in the art to modify Etnyre in order to include the use of a hydrogen sulfide suppressant as that taught by Gaw motivated by the fact that Gaw expressly discloses that H<sub>2</sub>S-suppressants reduce the evolution of hydrogen sulfide gas. Moreover, this combination is motivated by the

fact that Etnyre discloses that the composition is formed into pellets to easily handle the composition (column 2, lines 10-12).

9. Regarding claims 3-5, Gaw teaches that suitable hydrogen sulfide suppressants are selected from the class consisting of free radical inhibitors, redox catalysts such as iodine, copper salts, copper oxides, iron salts, iron oxides, cobalt salts, cobalt oxides, and mixtures thereof (column 1, lines 55-57; column 2, lines 13-17). In addition, Gaw teaches that among the redox catalysts, the iron chloride and specifically, the hydrated iron chloride is the optimum one (column 2, lines 19-29).

10. Regarding claim 36, Etnyre teaches the homogeneous mixing of sulfur and asphalt which is formed into solid pellets (column 2, lines 24-26). Gaw teaches the use of hydrogen sulfide suppressant to reduce the evolution of hydrogen sulfide which is toxic and is produced because of the use of sulfur (column 1, lines 40-50). Thus, it would have been to combine Etnyre and Gaw to obtain the invention as claimed in claim 36 motivated by the fact that Gaw expressly discloses that the use of hydrogen sulfide suppressant reduces the evolution of hydrogen sulfide which is a toxic gas.

11. Regarding claim 7, Etnyre teaches the mixing of sulfur with hot liquid asphalt in the manufacturing plant and then forming it into pellets (column 2, lines 5-30). The reference does not, expressly, disclose the use of H<sub>2</sub>S-suppressant with this mixing composition.

Gaw, drawn to the same field of art, discloses the use of hydrogen sulfide suppressant to reduce the evolution of hydrogen sulfide which is toxic (column 1, lines 40-50). Gaw expressly teaches that the amount of the suppressant does not exceed 0.5% by weight of the total composition (column 2, lines 44-48).

Thus, it would have been obvious to one of ordinary skill in the art to modify Etnyre in order to include the use of a hydrogen sulfide suppressant as that taught by Gaw motivated by the fact that Gaw expressly disclose that H<sub>2</sub>S-suppressants reduce the evolution of hydrogen sulfide gas. Moreover, this combination is motivated by the fact that Etnyre discloses that the composition is formed into pellets to easily handle the composition (column 2, lines 10-12).

12. Regarding claim 8, Gaw, drawn to heating a mixture comprising sulfur and asphalt, discloses that the mixing temperature should not exceed 175°C. Additionally, Etnyre, although not expressly disclosing the temperature, disclose that the mixing is done at high temperatures (Abstract; column 2, lines 17-19 and 32-34) and that sulfur is effective in strengthening the final composition (column 2, lines 19-20).

13. Regarding claim 9, Gaw teaches that the hydrogen sulfide suppressant is selected from the class consisting of free radical inhibitors, redox catalysts and mixtures thereof (column 1, lines 55-57).

14. Claims 1, 3-5, 7-9, and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Etnyre in view of to Gaw and in further view of US Patent No. 3,738,853 to Kopvillem et al.

15. Regarding claim 2, Etnyre teaches a composition of sulfur and asphalt which is formed into pellets to easily handle them (column 2, lines 6-26). Although Etnyre does not expressly disclose a ratio of sulfur to asphalt may be of higher than 4:1 (column 4, lines 1-6), Kopvillem et al. disclose the use of higher ratios Etnyre; column 1, lines 23-29). Thus, taking, for example, a ratio of 13:1 of sulfur to asphalt with the optional 3wt% of filler, this would result in an amount of 90wt% of sulfur. The reference does not, expressly, disclose the use of H<sub>2</sub>S-suppressant with this mixing composition.

Gaw, drawn to the same field of art, discloses the use of hydrogen sulfide suppressant to reduce the evolution of hydrogen sulfide which is toxic (column 1, lines 40-50). Gaw expressly teaches that the amount of the suppressant does not exceed 0.5% by weight of the total composition (column 2, lines 44-48).

Therefore, it would have been obvious to one of ordinary skill in the art to modify Etnyre in order to include the use of a hydrogen sulfide suppressant as that taught by Gaw motivated by the fact that Gaw expressly discloses that H<sub>2</sub>S-suppressants reduce the evolution of hydrogen sulfide gas. Moreover, this combination is motivated by the fact that Etnyre discloses that the composition is formed into pellets to easily handle the composition (column 2, lines 10-12). Furthermore, it would have been obvious to modify Etnyre to select a higher ratio of sulfur to asphalt as also taught by Kopvillem et

al. motivated by the fact that Kopvillem et al., also drawn to sulfur asphalt mixtures, expressly discloses higher concentration of sulfur adds strength to the mixture thereby contributing to the mechanical stability of the resulting mixture (Kopvillem et al.; column 1, lines 32-36).

16. Claims 10-19, 30 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over AU 9715194 in view of US Patent No. 4,756,763 to Etnyre in view of US Patent No. 3,960,585 to Gaw.

17. Regarding claims 10-11, 15-16, 30 and 35, AU 9715194 disclose that in the production of paving material, sand and gravel are heated at a temperature of 170°C to 375°C, then the bituminous material is heated to at least 170°C and finally the two are mixed (Abstract).

The reference does not, expressly, disclose the use of sulfur and hydrogen sulfide suppressant or its content and is silent to the amount of sulfur used.

Etnyre discloses the use of sulfur in the asphalt because it strengthens the ultimate paving composition and raises the flow point of the composition (column 2, lines 5-25; column 5, lines 65-68; column 6, lines 1-5). Etnyre does not expressly disclose the use of hydrogen sulfide suppressant. Etnyre teaches the use of calcium-based mineral filler such as calcium hydroxide to the mixture as well (column 6, lines 42-55).

Gaw teaches the use of hydrogen sulfide suppressant selected from the class consisting of free radical inhibitors, redox catalysts and mixtures thereof in preparing a sulfur-asphalt composition (column 1, lines 55-57). It, further, discloses the iodine, copper salts, copper oxides, iron salts, iron oxides, and cobalt salts and cobalt oxides as some of the conventional redox reagents used as catalysts (column 2, lines 13-17). Gaw, also, teaches that regarding hydrogen sulfide suppressant, sufficient amount is needed which would be effective to substantially suppress hydrogen sulfide evolution from the composition at temperatures up to 175°C and preferably below 150°C (column 1, lines 58-64; column 2, lines 54-60). In addition, Gaw discloses that the particular amount of hydrogen sulfide suppressant is added to the composition to give the desired effects at high temperatures and will vary with the specific sulfur-asphalt employed (column 2, lines 32-39). Furthermore, Gaw teaches that the quantity of suppressant will be only a minor proportion of the total sulfur-asphalt composition with amount as low as 0.05% by weight and not exceeding 0.5% by weight; however, Gaw teaches that the use of larger amount is by no means excluded (column 2, lines 40-50).

Therefore, it would have been obvious to one ordinary skill in the art to combine the three references in order to obtain the limitations of said claims motivated by the fact that Etnyre discloses that the use of sulfur in the asphalt composition strengthens the paving composition and raises the flow point of the composition; furthermore, Gaw teaches that because of environmental considerations, it is desirable to reduce the hydrogen sulfide concentrations by use of a hydrogen sulfide suppressant. Additionally, regarding the amount of H<sub>2</sub>S-suppressant, Gaw teaches that the amount used should

be enough to provide a desired inhibiting effect at high temperatures and that it will only be a minor proportion.

It is noted that the sulfur pellets, as claimed, may be added in any one of steps (i) to (iii). It is, further, noted that said claims recite the language of "comprising". Also, claim 10 recites the language of "consisting essentially of"; Gaw teaches the use of only 6% by weight of asphalt (column 4, lines 37-47). The term "consisting essentially of" may include any unrecited ingredient which does not affect the basic and novel characteristics of the invention. *In re Garnero*, 162 U.S.P.Q. 22 (CCPA 1969); *In re Delajarte*, 143 U.S.P.Q. 256 (CCPA 1964); *In re Janakirama-Rao*, 137 U.S.P.Q. 893 (CCPA 1963); *Ex parte Davis*, 80 U.S.P.Q. 448 (PO BdPatApp 1949).

It should be noted that Gaw teaches that the temperature reaches up to 175°C and is preferred to raise it up to 150°C (column 1, lines 62-63; column 2, lines 54-60). Thus, it would have been obvious to have used any appropriate temperature below this limit.

18. Regarding claims 12-13 and 17-18, Gaw teaches iron salts, cobalt oxides, and many more as some of the conventional redox reagents; the reference further discloses that iron chlorides are amongst the most preferred ones (column 1, lines 55-57; column 2, lines 6-10, 14-17, and 19-28).

19. Regarding claims 14 and 19, Etnyre teaches the use of calcium-based mineral filler such as calcium hydroxide in an amount of 25% by weight of the mixture; however,

the reference, further, asserts that the quantity of mineral filler may be varied depending upon the grade of asphalt, the ration of sulfur to the asphalt and the maximum temperature which the pellets must withstand without significant deformation (column 5, lines 57-61; column 6, lines 42-55).

20. Claims 20-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gaw in view of Etnyre.

21. Regarding claims 20-24, Gaw teaches the use of hydrogen sulfide suppressant, in any suitable amount to give desired effects at high temperature, along with sulfur in a sulfur-asphalt composition; the reference, further, discloses the use of iron chloride, or cobalt salts or some other compounds as  $H_2S$ -suppressant (columns 1 and 2). The reference does not expressly disclose the use of filler.

Etnyre teaches the use of calcium-based mineral filler such as calcium hydroxide in any appropriate amount which depends on the grade of the asphalt, the ratio of the sulfur to the asphalt used, and the maximum temperature which the sulfur-asphalt pellets must withstand without significant deformation; Etnyre, also, discloses an amount of 26% by weight of the mineral filler (column 5, lines 56-62; column 6, lines 42-55). The reference, in addition, discloses forming the sulfur-asphalt-filler mixture into pellets to easily handle them (column 1, lines 11-18; column 2, lines 10-12, 24-26).

Therefore, it would have been obvious to one of ordinary skill in the art to combine Gaw and Etnyre and to use a calcium-based mineral filler such as calcium hydroxide as that taught by Etnyre in the invention of Gaw motivated by the fact that the filler prevents the asphalts from stripping away in the presence of water when the pellets are subsequently heated and mixed with aggregate. Gaw and Etnyre are both from the same filed of art. Furthermore, it is noted that the use of filler is recited as being optional in the independent claim 20.

Additionally, it would have been obvious to a person of ordinary skill in the art to modify Etnyre in order to include the hydrogen sulfide suppressant as that taught by Gaw motivated by the fact that because of environmental considerations, it is desirable to reduce the amount of  $H_2S$  which is produced as a result of the addition of sulfur to the asphalt composition. It should be noted that the addition of sulfur to asphalt improves the strength and other properties of the pavement mixture disclosed by Etnyre and raises the flow point to a temperature well above the temperature at which the raw asphalt will flow and conglomerate (column 3, lines 29-38).

With reference to the recitation of "consisting essentially of", it is noted that the amount of asphalt is only a small portion (Gaw; column 4, lines 37-46). The term "consisting essentially of", as noted below in the Arguments section, may include any unrecited ingredients which do not affect the basic and novel characteristics of the invention. *In re Gernero*, 162 U.S.P.Q. 221 (CCPA 1969); *In re Lajarte*, 143 U.S.P.Q. 256 (CCPA 1964); *In re Janakirama-Rao*, 137 U.S.P.Q. 893 (CCPA 1963); *Ex parte Davis*, 80 U.S.P.Q. 448 (PO BdPatApp 1949).

22. Claims 25-29 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Etnyre in view of Gaw.

23. Regarding claims 25-29 and 37, Etnyre teaches the quantity of calcium-based mineral filler such as calcium hydroxide may be varied depending on the grade of the asphalt, the ratio of the sulfur to the asphalt used, and the maximum temperature which the sulfur-asphalt pellets must withstand without significant deformation; Etnyre, also, disclose an amount of 25% by weight of the mineral filler (column 5, lines 56-62; column 6, lines 42-55). Etnyre, however, discloses that the mineral filler may be added (column 5, lines 37-42). The reference, also, discloses forming the sulfur-asphalt-filler mixture into pellets to easily handle them (column 1, lines 11-18; column 2, lines 10-12, 24-26). It is, further, noted that Etnyre discloses mixing sulfur and asphalt (with an optional addition of a filler) to which aggregate may be added in later stages of the process (column 2, lines 24-26). Etnyre does not expressly disclose the use of H<sub>2</sub>S-suppressant.

Gaw teaches the use of hydrogen sulfide suppressant, in any suitable amount to give desired effects at high temperature, along with sulfur in a sulfur-asphalt composition; the reference, further, discloses the use of iron chloride, or cobalt salts or some other compounds as H<sub>2</sub>S-suppressant (columns 1, and 2).

At the time of the invention, it would have been obvious to modify Etnyre in order to include a hydrogen sulfide suppressant as that taught by Gaw motivated by the fact that Gaw discloses that because of environmental considerations, it is desirable to reduce the hydrogen sulfide concentrations produced as a result of heating sulfur-asphalt compositions (column 1, lines 29-40). Furthermore, both references, Gaw and Etnyre, are from the same field of art.

***Response to Amendment***

24. Applicant's amendments to claims 1 and 2, filed January 1, 2008 are acknowledged. However, they do not overcome the rejection under Title 35 112-second paragraph as set forth in the previous Office Action and above.

25. Applicant's amendment to claim 30, filed January 1, 2008, is acknowledged. However, it does not place the claim in condition for allowance.

26. Applicant's amendment to claims by canceling claim 6 is acknowledged.

27. The amendment to claims 3 and 31 filed on January 1, 2008 does not comply with the requirements of 37 CFR 1.121(c) because, regarding claim 3, the status modifier of claim 3 should have changed to "Currently Amended" with an underlying below "1" in "...according to claim 1, wherein....". It is noted that claim 3 lacked proper

dependency as, in the previous filing of the claims, it was missing to which claim it was dependent upon. However, it is understood as to what the claim means. Regarding claim 31, the status modifier of claim should have changed to "Currently Amended". Amendments to the claims filed on or after July 30, 2003 must comply with 37 CFR 1.121(c) which states:

(c) *Claims.* Amendments to a claim must be made by rewriting the entire claim with all changes (e.g., additions and deletions) as indicated in this subsection, except when the claim is being canceled. Each amendment document that includes a change to an existing claim, cancellation of an existing claim or addition of a new claim, must include a complete listing of all claims ever presented, including the text of all pending and withdrawn claims, in the application. The claim listing, including the text of the claims, in the amendment document will serve to replace all prior versions of the claims, in the application. In the claim listing, the status of every claim must be indicated after its claim number by using one of the following identifiers in a parenthetical expression: (Original), (Currently amended), (Canceled), (Withdrawn), (Previously presented), (New), and (Not entered).

(1) *Claim listing.* All of the claims presented in a claim listing shall be presented in ascending numerical order. Consecutive claims having the same status of "canceled" or "not entered" may be aggregated into one statement (e.g., Claims 1–5 (canceled)). The claim listing shall commence on a separate sheet of the amendment document and the sheet(s) that contain the text of any part of the claims shall not contain any other part of the amendment.

(2) *When claim text with markings is required.* All claims being currently amended in an amendment paper shall be presented in the claim listing, indicate a status of "currently amended," and be submitted with markings to indicate the changes that have been made relative to the immediate prior version of the claims. The text of any added subject matter must be shown by underlining the added text. The text of any deleted matter must be shown by strike-through except that double brackets placed before and after the deleted characters may be used to show deletion of five or fewer consecutive characters. The text of any deleted subject matter must be shown by being placed within double brackets if strike-through cannot be easily perceived. Only claims having the status of "currently amended," or "withdrawn" if also being amended, shall include markings. If a withdrawn claim is currently amended, its status in the claim listing may be identified as "withdrawn—currently amended."

(3) *When claim text in clean version is required.* The text of all pending claims not being currently amended shall be presented in the claim listing in clean version, i.e., without any markings in the presentation of text. The presentation of a

clean version of any claim having the status of "original," "withdrawn" or "previously presented" will constitute an assertion that it has not been changed relative to the immediate prior version, except to omit markings that may have been present in the immediate prior version of the claims of the status of "withdrawn" or "previously presented." Any claim added by amendment must be indicated with the status of "new" and presented in clean version, *i.e.*, without any underlining.

(4) *When claim text shall not be presented; canceling a claim.*

(i) No claim text shall be presented for any claim in the claim listing with the status of "canceled" or "not entered."

(ii) Cancellation of a claim shall be effected by an instruction to cancel a particular claim number. Identifying the status of a claim in the claim listing as "canceled" will constitute an instruction to cancel the claim.

(5) *Reinstatement of previously canceled claim.* A claim which was previously canceled may be reinstated only by adding the claim as a "new" claim with a new claim number.

### ***Response to Arguments***

28. Applicant's arguments filed January 1, 2008 have been fully considered but they are not persuasive.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

The Examiner, respectfully, submits that Gaw was used for his teaching on using H<sub>2</sub>S-suppressant and why doing so. Furthermore, Gaw has been used in 103(a) rejection in combination with AU 9715194 and/or with Etnyre.

29. Applicant has argued that that Gaw does not teach a composition that is predominantly or close to entirely all sulfur and that the reference teaches the addition of sulfur after asphalt and aggregate are mixed

The Examiner, respectfully, submits that Gaw was used as a secondary reference in a 103(a) rejection for his teaching of using hydrogen sulfide suppressant and proper motivation was indicated.

30. Applicant has argued that Etnyre does not teach a composition that is predominantly or close to entirely all sulfur.

The Examiner, respectfully, submits that Etnyre, in one embodiment, discloses the use of about 71.4 parts of sulfur in the 71.5wt% of sulfur-asphalt mixture having the ratio of 1.5:1 of sulfur to asphalt. Furthermore,

31. Applicant has argued that the language of "consisting essentially of" in claim 20 excludes the substantial presence of bitumen or aggregate or both.

The Examiner, respectfully, submits that regarding the phrase "consisting essentially of", MPEP 2111.03 states:

"The transitional phrase "consisting essentially of" limits the scope of a claim to the specified materials or steps "and those that do not materially affect the basic and novel characteristic(s)" of the claimed invention. In re Herz."

Furthermore, MPEP 2111.03 states:

"For the purposes of searching for and applying prior art under 35 U.S.C. 102 and 103, absent a clear indication in the specification or claims of what the basic and novel characteristics actually are, "consisting essentially of" will be construed as equivalent to "comprising".

Additionally:

"If an applicant contends that additional steps or materials in the prior art are excluded by the recitation of "consisting essentially of," applicant has the burden of showing that the introduction of additional steps or components would materially change the characteristics of applicant's invention. In re De Lajarte."

32. Applicant has argued that Etnyre's teaching implies the use of very small amount of sulfur.

The Examiner, respectfully, submits that Etnyre is drawn to a sulfur asphalt mixture to which filler may or may not be added (column 5, lines 39-41; 57-59).

Furthermore, the Applicant has pointed to one embodiment of the reference in column 6, lines 50-61. It is further noted that aggregate may be added to the mixture (column 6, lines 42-44).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PEGAH PARVINI whose telephone number is (571)272-2639. The examiner can normally be reached on Monday to Friday 8:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo can be reached on 571-272-1233. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/P. P./  
Examiner, Art Unit 1793

/Jerry A Lorengo/  
Supervisory Patent Examiner, Art Unit 1793